

**WHAT IS CLAIMED IS:**

1. A recombinant vaccinia virus incorporated with a gene for coding glutamic acid decarboxylase.

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2. The recombinant vaccinia virus according to claim 1, wherein the vaccinia virus is a virus of deposit number ATCC VR-1354.

3. recombinant vaccinia virus according to claim 1, wherein the gene includes nucleotide sequence of GAD65 or its analogous.

4. The recombinant vaccinia virus according to claim 1, wherein the gene is cloned into a plasmid vector to form a recombinant DNA molecule:

5. The recombinant vaccinia virus according to claim 4, wherein the plasmid vector is pMJ601.

6. The recombinant vaccinia virus according to claim 4, wherein the recombinant DNA molecule includes a gene coding for Thymidine Kinase left region, pLsyn, GAD65 cDNA, a gene coding for  $\beta$ -galactosidase, and a gene coding for Thymidine Kinase right region.

7. A vaccine for preventing or delaying the type 1 diabetes mellitus comprising a recombinant vaccinia virus incorporated with a gene for coding

glutamic acid decarboxylase.

8. The vaccine for preventing or delaying the type 1 diabetes mellitus according to claim 7, further comprising pharmaceutically allowable additives.

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9. The vaccine for preventing or delaying the type 1 diabetes mellitus according to claim 8, wherein the additives includes one or more stabilizer selected form the group consisting of fetal serum albumin, lactose, sugar, formalin, gelatin, polysorbate 80, aminoacetic acid, cysteine, ethylenediaminetetra aceticacid, and sodium glutamate.

10. The vaccine for preventing or delaying the type 1 diabetes mellitus according to claim 8, wherein the additives includes one or more preserving agent selected form the group consisting of thimerosal, sulfuric acid Kanamycin, erythromycin, streptomycin, phenol and neomycin.

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11. The vaccine for preventing or delaying the type 1 diabetes mellitus according to claim 7, wherein the effective amount of the vaccine is in the range of  $1 \times 10^3 \sim 1 \times 10^{11}$  PFU.

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